

**Supplemental files:**

**Table S1 Primer sequences for quantitative RT-PCR**

Genes Name	Genes ID	Forward Primer (5' - 3')	Reverse Primer (5'- 3')	Remark
<i>*β-actin</i>	Cla97C02G026960	CCATGTATGTTGCCATCCAG	GGATAGCATGGGGTAGAGCA	*Reference Gene
<i>CIOMT1</i>	Cla97C02G028680	TAAGACGGCTCACGGAAA	CATCACTAACCTCGCATCAC	
<i>CIOMT2</i>	Cla97C02G030510	GATGTGGGAGGAGGAAAT	ATGTGGAAGGTCAAAGTTG	
<i>CIOMT3</i>	Cla97C02G030520	GCAGCCAATCCATCACAC	CTCCTCCAACATCCACCAA	
<i>CIOMT4</i>	Cla97C02G030540	GATGTGGGAGGAGGAAAT	ATGTGGAAGGTCAAAGTTG	
<i>CIOMT5</i>	Cla97C02G030550	CAAGTAGCAGCAACAACA	TCTCCAATGTCGCCTTTA	
<i>CIOMT6</i>	Cla97C02G030560	GGCATAATCTTAGTGGAAGG	AGCATTACAACCCAAACC	
<i>CIOMT7</i>	Cla97C02G030570	CACCAATGTTGAGAATAGC	CTCCATAAATCCTTCCCAT	
<i>CIOMT8</i>	Cla97C02G043200	GCCTTGACATTTGGGATTTT	GCGAGTGAGTGAACAGAG	
<i>CIOMT9</i>	Cla97C02G043210	GCCTTGACATTTGGGATTTT	GCGAGTGAGTGAACAGAG	
<i>CIOMT10</i>	Cla97C07G144540	CAACAGAGCCTACGGAAT	ATGGTAATGGTGCATGGT	
<i>CIOMT11</i>	Cla97C09G172390	GAGGTGGTAATGGAACAT	GAGGAAGGTCAATAACAAC	
<i>CIOMT12</i>	Cla97C10G188660	ATTGGAGGAGGAGGTGTT	GGGCATAGTGGTGTGATTT	
<i>CIOMT13</i>	Cla97C10G188670	TTCGTAATCAAGATGGTGTC	AACTCCTCCTTCAATAACTG	
<i>CIOMT14</i>	Cla97C10G195920	CGTCGTTGGTTGATGTTG	TGTTGAGGCTTCTGGTTAG	
<i>CIOMT15</i>	Cla97C10G195930	GTGAAGTCTATGGTTGATGT	AAGTGATGTGTGGGAATG	
<i>CIOMT16</i>	Cla97C10G202790	GCATCATCAGGACGCACTTA	GTTCCGCCGTTCTGCTCTAA	
<i>CISNAT1</i>	Cla97C04G072790	CACTGAGACAACATTACCA	GCCAACCTACCTTATCAC	
<i>CISNAT2</i>	Cla97C05G105300	TATGGGATGTGGTGGTGGAT	GGCTCCGAATACAATGCGATA	

**Table S2. Physical properties of translated proteins of genes**

Gene Name	Gene ID	Chromosome Location	Protein length	pI	Molecular Weight (KD)	Grand average of hydropathicity (GRAVY)	Description
<i>CIOMT1</i>	Cla97C02G028680	Cla97Chr02:2161556 .. 2164053 (+)	1074	5.09	88. 81	0.700	O-methyltransferase
<i>CIOMT2</i>	Cla97C02G030510	Cla97Chr02 : 3482833 .. 3484720 (-)	1065	5.09	88. 30	0.732	O-methyltransferase, family 2
<i>CIOMT3</i>	Cla97C02G030520	Cla97Chr02 : 3488829 .. 3491274 (-)	1071	5.11	87. 84	0.674	O-methyltransferase, family 2
<i>CIOMT4</i>	Cla97C02G030540	Cla97Chr02 : 3508413 .. 3510435 (+)	1068	5.09	88. 55	0.747	O-methyltransferase, family 2
<i>CIOMT5</i>	Cla97C02G030550	Cla97Chr02 : 3515980 .. 3518336 (+)	1017	5.10	83. 93	0.769	O-methyltransferase, family 2
<i>CIOMT6</i>	Cla97C02G030560	Cla97Chr02 : 3542077 .. 3543859 (+)	1080	5.13	88. 38	0.676	O-methyltransferase, family 2
<i>CIOMT7</i>	Cla97C02G030570	Cla97Chr02 : 3547673 .. 3554475 (+)	1023	5.07	86. 17	0.704	O-methyltransferase, family 2
<i>CIOMT8</i>	Cla97C02G043200	Cla97Chr02 : 31402942 .. 31404092 (-)	1074	5.01	90. 50	0.905	O-methyltransferase, family 2
<i>CIOMT9</i>	Cla97C02G043210	Cla97Chr02 : 31427713 .. 31428863 (-)	1074	5.01	90. 53	0.903	O-methyltransferase, family 2
<i>CIOMT10</i>	Cla97C07G144540	Cla97Chr07 : 31874671 .. 31875744 (-)	1074	5.03	88. 78	0.793	caffeic acid 3-O-methyltransferase 1

<i>CIOMT11</i>	Cla97C09G 172390	Cla97Chr09 : 8789656 .. 8791046 (+)	1092	5.08	90. 15	0.720	O-methyltransferase
<i>CIOMT12</i>	Cla97C10G 188660	Cla97Chr10 : 4750672 .. 4753331 (-)	897	5.10	73. 84	0.769	caffeic acid 3-O-methyltransferase-like
<i>CIOMT13</i>	Cla97C10G 188670	Cla97Chr10 : 4767376 .. 4770041 (-)	1113	5.06	92. 05	0.764	caffeic acid 3-O-methyltransferase-like
<i>CIOMT14</i>	Cla97C10G 195920	Cla97Chr10 : 25509231 .. 25511161 (-)	1107	5.08	92. 02	0.750	O-methyltransferase
<i>CIOMT15</i>	Cla97C10G 195930	Cla97Chr10 : 25518757 .. 25520719 (-)	1098	5.08	90. 92	0.752	O-methyltransferase
<i>CIOMT16</i>	Cla97C10G 202790	Cla97Chr10 : 32622705 .. 32628072 (+)	1113	5.01	91. 81	0.855	O-methyltransferase
<i>CISNAT1</i>	Cla97C04G 072790	Cla97Chr04 : 20117108 .. 20120860 (-)	744	5.14	61. 86	0.743	N-acetyltransferase, putative
<i>CISNAT2</i>	Cla97C05G 105300	Cla97Chr05 : 32943340 .. 32943915 (+)	576	5.12	48. 59	0.861	N-acetyltransferase, putative

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**Table S3. Prediction of cis-acting regulatory elements of *CIOMT* and *CISNAT* genes**

Gene	anaerobic induction (ARE)	light responsi veness (G-box)	low temperature stress responsiven ess (LTR)	drought responsiveness (MBS)	stress responsiveness	defense and stress responsiveness (TC-rich repeats)	methyl jasmonate-respo nsiveness (TGACG-motif)	abscisic responsiveness (ABRE)	acid	salicylic responsiveness (TCA-element)	acid
<i>CIOMT1</i>	✓	✓	✓	✓		✓	✓	✓			
<i>CIOMT2</i>	✓	✓		✓			✓	✓			
<i>CIOMT3</i>	✓	✓				✓	✓	✓			
<i>CIOMT4</i>	✓	✓		✓				✓		✓	
<i>CIOMT5</i>	✓	✓		✓		✓	✓	✓			
<i>CIOMT6</i>	✓	✓				✓	✓	✓		✓	
<i>CIOMT7</i>	✓	✓	✓				✓			✓	
<i>CIOMT8</i>	✓	✓	✓				✓	✓		✓	
<i>CIOMT9</i>	✓	✓	✓				✓	✓		✓	
<i>CIOMT10</i>	✓	✓	✓			✓		✓		✓	
<i>CIOMT11</i>	✓	✓		✓		✓		✓		✓	
<i>CIOMT12</i>	✓	✓		✓							
<i>CIOMT13</i>	✓	✓					✓	✓			
<i>CIOMT14</i>	✓	✓	✓					✓			
<i>CIOMT15</i>	✓	✓	✓			✓		✓			
<i>CIOMT16</i>	✓	✓				✓	✓	✓			
<i>CISNAT1</i>	✓	✓		✓			✓	✓		✓	
<i>CISNAT2</i>	✓	✓	✓								

**Table S4. The similarities of *CIOMTs* to *COMT* genes from other plants**

	<i>AtCOMT</i>	<i>SlCOMT</i>	<i>OsCOMT</i>
<i>CIOMT1</i>	33%	33%	32%
<i>CIOMT2</i>	37%	41%	38%
<i>CIOMT3</i>	34%	37%	34%
<i>CIOMT4</i>	36%	39%	36%
<i>CIOMT5</i>	33%	36%	32%
<i>CIOMT6</i>	34%	36%	31%
<i>CIOMT7</i>	32%	31%	32%
<i>CIOMT8</i>	40%	40%	37%
<i>CIOMT9</i>	40%	40%	37%
<i>CIOMT10</i>	75%	74%	60%
<i>CIOMT11</i>	33%	34%	29%
<i>CIOMT12</i>	50%	52%	46%
<i>CIOMT13</i>	55%	57%	51%
<i>CIOMT14</i>	32%	33%	29%
<i>CIOMT15</i>	27%	28%	28%
<i>CIOMT16</i>	38%	37%	36%